CLAIMS

1. (currently amended) A system for land based cultivation of seaweeds, said system comprising:

- phycological laboratory facilities suitable to produce spores and sporelings in cultures; [[,]]

- a plurality of aerated sleeves containing seawater housed in temperature controlled land based facilities to allow the maturation of the sporelings; [[,]]

- a plurality of small aerated inoculation tanks containing seawater enriched with defined nutrients under optimal conditions, to allow the mature sporelings to grow into seaweed pieces; [[,]] and

- a plurality of large aerated cultivation tanks to transfer the seaweed pieces into, to grow to full size.

2. (currently amended) A novel technology for cultivation of seaweeds on land, said technology comprising a plurality of land based [[seawater ponds]] units, each of said units operated year round under optimal conditions of temperature, light, and, air, and designed to optionally contain seawater enriched with nutrients[[,and said ponds maintained under optimal conditions of temperature, light and air to allow optimal growth of seaweeds throughout the year]] where necessary, wherein said units comprise a) a seeding unit to produce spores sexually and asexually to grow sporelings, b) a sporeling production unit to produce spores sexually and asexually, c) a maturation unit to allow maturation of sporelings, d) a

cultivation unit to grow seaweeds to full size, e) a harvesting unit to separate the seaweeds from the seawater, f) a drying unit to dry the harvested seaweeds, or g) a grinding unit to process the dried seaweed for marketing.

3. (currently amendedl) The system according to claim 1 wherein the seaweed species grown in land based seawater ponds include *Porphyra (Nori), [Laminaria, Undaria], Eucheuma, Gracillaria, Ulva, Sargassum, Codium, Cladophora, Ascophyllum,[Palmaria, Furcellaria,] Fucus or Enteromorpha.*

4. (currently amended) The system according to claim 3 wherein the nutrients added to the seawater are designed to produce a plurality of seaweeds that are used as neutraceuticals, food components, pharmaceutics or cosmetics.

5. (currently amended) The system according to claim 1, wherein the land based cultivation cycle for the seaweeds comprises:

-production of spores and sporelings in petri dishes in a phycological laboratory;

cultivation of sporelings in sleeves under environmentally controlled conditions;

-stage 1 growth in small tanks of sporelings under environmentally controlled conditions;

-stage 2 growth in large tanks containing defined nutrients to seaweed pieces;

-stage 3 growth in inoculation ponds containing defined nutrients to full

size seaweeds; [[,]] and

-stage 4 growth in cultivation ponds to harvest the seaweeds.

6. (original) The system according to claim 5, wherein each of the different stages of growth of seaweeds in land based seawater ponds is programmable to occur throughout the year.

7. (original) A method of cultivating seaweeds in land based sea water ponds, said method comprising the steps of:

-producing spores and sporelings in cultures maintained in a laboratory facility,

-growing the sporelings in suspension cultures under optimal growth conditions,

-transferring the matured sporelings to large cultivation tanks to allow for rapid growth,

-harvesting the full grown seaweed pieces,

-drying and grinding the harvested seaweeds, and

preparing the resulting seaweed product for human consumption.

8. (original) The method according to claim 7, wherein the large cultivation tanks contain suitable nutrients to ensure high yields of seaweed products having useful properties.

9. (original) The method according to claim 8 wherein the method to produce a seaweed product is adapted to produce a product suitable for pharmaceutical use.

10. (original) The method according to claim 8 wherein the method to produce

a seaweed product is adapted to produce a product that is useful as a food component.

11. (new) The system according to claim 1, wherein the small aerated inoculation tanks have the volume capacity of about 40 liters, and the large aerated cultivation tanks have the volume capacity of about 4000 liters.

12. (new) The system according to claim 1, wherein the seawater is enriched with 0.5mM NH_4Cl and 0.05mM Na_2PO_4, at least two times a week, for at least three weeks.

13. (new) The technology according to claim 2, wherein the land based ponds are of varying sizes including 30 m^2 or 500m^2.

14. (new) The technology according to claim 2, wherein the drying unit comprises centrifugation drums or low temperature ovens.

15. (new) The technology according to claim 2 wherein the seaweed species grown in land based seawater ponds include *Porphyra (Nori), Eucheuma, Gracillaria, Ulva, Sargassum, Codium, Cladophora,Ascophyllum, Fucus or Enteromorpha.*

16. (new) The system according to claim 1 wherein the land based temperature controlled facility housing the plurality of sleeves, further comprises a chiller to regulate the temperature.

17. (new) The system according to claim 5, wherein the volume capacity of each of the sleeves is about 20 liters, of the tanks used in stage 1 is about 40 liters, of the large tanks used in stage 2 is about 4000 liters, of inoculation ponds used in stage 3 is about 30m^2 and the cultivation ponds used in stage

4 of 500m^2.

18. (new) The seaweed product of *Porphyra* cultivated using the system according to claim1.

19. (new) The seaweed product of *Porphyra* cultivated using the technology according to claim 2.

20. (new) The seaweed product of *Porphyra* cultivated using the method according to claim 7.